

DRAFT
REVISED WORKPLAN FOR THE
KAU WASTEWATER TREATMENT WORKS PROJECT
Na`alehu, County of Hawai`i, Hawai`i
Revised May 2009

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I. Background

The formation of the Na`alehu Community within the District of Kau in the County of Hawai'i (Figure 1) was a result of historical sugar farming and processing operations. The District of Kau is situated at the Southern tip of the Island and extends across the Southern and Southeastern flanks of Mauna Loa. With a land area of over 630,000 acres and an estimated population of over 5,000 persons, the District of Kau is relatively isolated and unspoiled. The Na`alehu Community is one of two major population centers in the District of Kau with a population of 919 according to the year 2000 census. Since the closing of the Kau Sugar Company in 1996, many of the residents within the community are former sugar workers and their descendants.

In the District of Kau, there are no existing County of Hawai'i (County) wastewater treatment plants. The closest County wastewater treatment plant is located in the town of Hilo which is approximately 60 miles north of Na`alehu. Currently, the residential community is being served by a sewer system comprised of criss-crossing gravity lines that convey sewage to a total of three large capacity cesspools (LCCs) owned by the C. Brewer and Company, Ltd. (C. Brewer). The gravity sewer lines serve 153 residences and discharges wastewater into two LCCs. Eight residences are served by a another LCC. The existing sewer system as described is owned and maintained by the C. Brewer and Company, Ltd. (C. Brewer) as they have been doing for the past 60 years.

In 2003, C. Brewer requested assistance from the County to close their LCCs. In April 2004, the County's Community Outreach Committee conducted a meeting with the community of Na`alehu to present sewer system replacement alternatives. In August 2004, the County conducted a vote by ballot which enabled homeowners who were connected to the C. Brewer sewer system to choose the preferred sewer improvement alternative. Of the 189 ballot cards returned, 165 votes or 87% of the ballots were in favor of a new sewer collection sewer, treatment and disposal system installed, operated and maintained by the County. In January 2005, C. Brewer contracted with M&E Pacific, Inc. to evaluate the condition of the existing sewer system. A report ("draft final" form dated December 2004) describing the investigation and findings is on file at the County Department of Environmental Management office.

Sometime in 2006, C. Brewer expressed to the County of their impending dissolution and that they no longer desired to own and manage the existing community sewer system once the dissolution process was completed. The County agreed to take ownership of the community sewer system and entered into a formal agreement with C. Brewer on April 20, 2007 which obligated the County to replacing the existing sewer system and subsequently assume ownership of the new system. According to the agreement, ownership of the improved system will transfer to the County on April 30, 2010 regardless of the progress status of the sewer improvements. Moreover, C. Brewer would fund and install the private sewer laterals and donate land to the County to site the treatment and disposal portion of the new sewer system.

Since the agreement, the County had been working on design that entailed a new sewer collection sewer system and a community septic system with disposal to a LCC converted to a seepage pit (aka injection well). However, there were concerns by the County as to the useful life of the seepage pit as there were reports of prior episodes of clogging followed by substantial amounts of chemical application to clear the clogs. In March 2008, the results of a percolation test conducted in one of the LCCs confirmed that the soils in the immediate area would not be favorable to a properly functioning seepage pit or a small adsorption leach field. Subsequently, the County decided to look for larger land space that would accommodate either a adequately sized adsorption leach field or some other method of sewage treatment and disposal. As of the date of this workplan, the County is researching the possibility of acquiring 20 acres of land located approximately 2 to 3 miles east of the residential community which would yield more flexibility in the treatment and disposal method as well as situate a treatment system away from the residential community.

II. Objectives

The objectives are to replace the existing sewer system with one that meets County standards and eliminate the C. Brewer-owned LCCs that are currently serving the Na`alehu Community. An additional X properties that are not currently being served by the C. Brewer system will be made accessible.

III. Methods

The County has been utilizing the services of an engineering design consultant in planning and designing a sewer collection, treatment and disposal system suitable to meet the needs of the Na`alehu residential population that is currently being served by the C. Brewer sewer system. The new sewer system will serve a total of 181 residences following the planned closure of two LCCs. The remaining LCC will be converted to a single family residential cesspool.

Specifically, the project involves abandoning the sub-standard sewer lines that run within private properties and activating new sewer lines that will reside in the County-owned roadways. Approximately 9,000 linear feet (LF) of 8 inch sewer lines with sewer laterals will be installed within the Naalehu Community (Figure 2). The installation of the sewer laterals within private property currently serviced by the C. Brewer sewer system is tasked under C. Brewer. The treatment and disposal system design is currently in progress.

The project consists of four major tasks as follows:

Task 1: Planning

A Final Preliminary Engineering Report (PER) for Na`alehu and Pahala Large Capacity Cesspool Conversion Projects dated July 2007 was prepared by SSFM International for the County. The PER describes the existing conditions and evaluates collection, treatment and disposal alternatives for the sewer system improvements. A Final

Environmental Assessment (EA) dated August 2007 was published under the Office of Environmental Quality Control. Both documents will require revisions via amendments to reflect the final selected treatment and disposal option.

Task 2: Land Acquisition for the Treatment and Disposal System

Per County policy, the land acquisition process involves an Environmental Site Assessment (ESA). A Phase I ESA report was completed on October 31, 2007 for a property (TMK 9-5-024:010) adjacent to the originally proposed treatment and disposal site with the intention of using it as a buffer zone and a means of access to the proposed treatment and disposal site. The report did not identify any recognizable environmental conditions (RECs). Therefore, it was determined that a Phase II ESA was not required.

The recently conducted percolation test indicates high potential for failure of the seepage pit that was the planned method of effluent disposal. This could consequently result in no means for disposal of effluent in the future and new injections wells are prohibited in this area due to its location relative to the Underground Injection Control boundary. .

In addition to acquiring easements within the Na`alehu area to accommodate portions of the sewer collection system that require installation within private property as a result of topographic issues, the County is working on acquiring land for the treatment and disposal portion of the sewer system. This work will entail topographic and boundary surveys, land appraisals, purchase offers, negotiations, and transfer of titles.

Tasks 3: Na`alehu Design

The PER and EA will undergo revision to reflect the current plans for the treatment and disposal system intended to serve the Na`alehu Community. The EA would be in compliance with EPA Environmental Review Requirements as a “NEPA-like” program. Construction plans and specifications will be prepared for the new collection, treatment and disposal system. Permit requirements will be outlined in the specifications.

Tasks 4: Na`alehu Construction

The construction contract will provide for the construction of the approved construction plans and specifications. The County will provide for field engineering inspection of the construction including design changes dictated by field and/or construction conditions, review of contractor’s drawings, and assurance of contractor compliance with plans and specifications. C. Brewer is responsible for any construction drawings as well as the installation of the new sewer laterals within private properties.

IV. Project Schedule/Milestones

Table 1 details the implementation schedule, deliverables and estimated cost for the project’s Tasks and Sub-tasks.

V. Intended Financing

The total construction cost of the Na’alehu portion of the project is currently estimated at about \$9,776,273 including planning, land acquisition, design and construction. Table 2 indicates the allocation of funding resources unless additional state or federal funds become available.

TABLE 2: Allocation of Funding Resources

<i>Source</i>	<i>Amount of Funding</i>	<i>% of Project Funding</i>
Federal Grant	\$1,842,150	18.84 %
State of Hawaii Clean Water State Revolving Fund	\$5,714,079	58.45 %
State of Hawaii, HEER office grant for ESA Phase I	\$4,478	0.05%
County of Hawaii	\$2,215,566	22.66 %
Total	\$9,776,273	100%

VI. Performance Evaluation

The following will be used to evaluate the success of the project:

1. Timely completion of the project, in accordance with the plans and specifications.
2. Elimination of the large capacity cesspools owned by C. Brewer that are currently serving a large portion of the Naalehu community.
3. Compliance with the EPA regulations, 40 CFR 144 & 145.

VII. Reporting Schedule to EPA:

The County will submit Annual Performance Reports in accordance with 40CFR31.40. Semi-Annual Performance Reports will be provided when work is progressing.

VIII. Attachments